

DETAILED ACTION

Applicants' response dated 02/18/2010 has been received and entered. Claims 27 and 33 are pending in the application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 27 and 33 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al., US Patent No. 6,147,667, in view of Sposili et al., Single-Crystal Si-Films via a Low Substrate Temperature Excimer-Laser Crystallization Method, as stated in the previous office action

Regarding claims 27 and 33, Yamazaki et al. discloses a system on panel typed liquid crystal display (LCD) device (semiconductor device)(figures 1 and 6A-6B) comprising:

- . a first glass substrate (101/631);
- . a pixel array (pixel matrix circuit 102);
- . a driver circuit (103/104);
- . a controller unit (logic circuit 105) including CPU, RAM, ROM, etc (col. 5, lines 25-31);
- . a second substrate (654);
- . a liquid crystal layer (656).

Yamazaki et al, however, neither disclose active layer of the driver circuit and/or the controller unit including an active layer in which silicon grains have a length beyond a single pulse lateral growth distance. Sposili et al. do disclose a thin film (Si-film) which used as an active layer can have a length beyond a single pulse lateral growth distance (see page 954, lines 15-16). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ the Yamazaki et al. controller to have an active layer with silicon grains have a length beyond a single pulse lateral growth distance as shown by Sposili et al in order to improve a mobility characteristic of an active layer (see Introduction).

Yamazaki et al. nor discloses the claimed invention except for a based material for an active layer being single crystalline silicon or polycrystalline silicon or an amorphous silicon. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ such single crystalline silicon or polycrystalline silicon or an amorphous instead of crystalline silicon for an active layer in the thin film transistor (TFT), since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use in a thin-film circuit.

It should be note that the limitation of “crystallized from ...”, “grown by single-pulse lateral growth process” and “by the same process” recites a one-step process which does not further limit the structure of the device claims. Therefore, such limitations have not been given patentable weight.

Response to Arguments

3. Applicant's arguments filed 02/18/2010 have been fully considered but they are not persuasive.

Applicants appear to believe that the cited references fail to teach or suggest the claimed invention as of claims 1 (e.g., a pixel array, a driver circuit and a controller unit). The Examiner respectfully disagrees with Applicant's viewpoint. In particular, Yamazaki et al. ('667) do teach such feature of the pixel array 102, the driver circuit 103/104 and the controlling unit 105. In addition, Sposili et al. (Single-Crystal Si-films article) also teach an active layer structural as claimed. In other words, the modification to the Yamazaki et al. in view of Sposili et al. would result a claimed invention as well. Therefore, the claimed feature of claims 27 and 33 can be read over the combination of Yamazaki et al. and Sposili et al.

Accordingly, the rejection of claims 27 and 33 stand as stated above.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung T. Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN
06/07/2010

/Dung T. Nguyen/
Primary Examiner
Art Unit 2871